DPCA
Distributed Power Coalition of America

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The Honorable Tom Bliley
Chairman, Committee on Commerce
U.S. House of Reprsentatives
Room 2125, Rayburn House Office Building
Washington, DC 20515-6115

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Dear Representative Bliley:

Thank you for your interest in the views of the Distributed Power Coalition of America. This letter outlines responses to questions posed in your letter of April 25. Although the DPCA has not taken an official position on all the concerns you raised, we are certainly willing to help clarify as many issues as possible, either in writing or by conference.

1. How would the regionalization of the transmission grid impact distributed generation?

It is often assumed that jurisdiction over small, on-site generating units would fall within the sole purview of distribution utility companies, which are regulated under state authority. However, the unfolding deregulation of the electric industry has highlighted areas in which state and federal authority will overlap. The following are examples of this overlap:

A. ISO authority over small-scale generation

The existing independent system operators have a legal and operational responsibility to plan for power flows within geographical regions. This requires independent system operators (ISOs) to know what generating units are operating within their territories (to "see" them on the grid) as well as to plan for the power they will dispatch into the grid.

Until very recently, scheduling and dispatch at the ISO level has only involved generating units of about 10 megawatts or greater. Smaller units were seen as merely "blips" on the system that were too small to "see." However, ISOs are now becoming aware of the real possibility that many small generators may be deployed in the near or not-too-distant future. They fear that the existence of hundreds or thousands of small units may, collectively, impact the interstate grid.

PJM, the ISO for the Pennsylvania, New Jersey, Maryland territory, for example, now asserts jurisdiction over generating units down to 1 megawatt in size, while the California ISO, in recent public statements, has strongly asserted its legal right to insist upon telemetering and scheduling of generating units as small as 1 kilowatt in size.

Adding telemetering and scheduling requirements on small units, in our opinion, would be overly burdensome. Full telemetering, for example, adds about $25,000 to any on-site project and would economically kill most projects. Day-ahead scheduling also poses a terrible burden for small units, particularly renewables, whose production is based on sun or wind.

DPCA members have urged the California ISO to consider alternatives to these stringent requirements. It may be legitimate for ISO to "see" what generating units are operating within their territories. This could easily be accomplished through data gathered on standardized interconnection request forms that each utility would collect, under state interconnection rules. Texas and Delaware, for example, have created such standardized forms. These forms would list the size of the unit, the type of generation, and its location. This information could be compiled by the state public utility commission, or the Department of Energy's Energy Information Administration.

Based on this data, ISOs could easily project load flows from these smaller units. Similar load projections are used in many other circumstances very successfully. For example, utilities employ such projections to plot energy demand for street lights, without the need for individual telemetering for each unit.

B. ISO jurisdiction over interconnection for distributed generation

A more problematic area is the issue of interconnection policy. In the case of PJM's service territory, utilities are reluctant to create standardized interconnection policy for on-site units higher than 1 megawatt simply because those requirements must be negotiated with PJM.

This overlap in jurisdiction for interconnection argues strongly for a national interconnection standard. Toward this aim the DPCA is preparing a model interconnection standard package that could be adopted by any state. This package includes technical standards for interconnection, standardized interconnection request forms, administrative procedures and schedules for processing the requests, and standardized interconnection contracts. The DPCA package is based on work that has already gone forward in states like New York, Texas, Delaware and California.

This package could also be applied to ISO operations. The DPCA will be forwarding this package, within the next few weeks, to policymakers at the Federal Energy Regulatory Commission as well as the existing ISOs. We believe that a seamless grid is necessary for the full deployment of distributed generation.

C. ISO/FERC jurisdiction over sales for resale

Any sale for resale, no matter how small, is likely to be regulated under FERC authority. Commissioner William Massey voiced this opinion of FERC authority at the April 28, 2000 conference in ISO/RTO interconnection sponsored by the DPCA, Department of Energy and the Natural Gas Council. His comments are available through the DPCA web site (www.dpc.org).

The DPCA anticipates that the majority of distributed generating units will not be engaged in sale for resale. Most of these units will be operated as "behind the fence" generators, providing power only for the consumer at that site. However, there are several scenarios in which distributed generation could trigger FERC authority. Some examples include the following:

Selling Power to a Neighboring Facility. An industrial site that installs a cogeneration plant may find it economic to sell power or steam to a neighboring industrial company. The state of Delaware, for example, included a provision in its electric restructuring legislation that allows an industrial customer to sell power to up to five contiguous neighbors without triggering utility status. This enlightened policy recognizes the economic and environmental savings from localized power operations.

Power Parks. Another example of this is the concept of the power park, which is being championed by the Department of Energy as one path the U.S. must follow in order to become the providers of the cleanest energy in the world. The Pleasanton Power Park in California is a prime model of this concept. There, a single developer is building seven buildings that will house a number of light industrial renters. Three buildings will house 300 kilowatts of photovoltaic units. Other buildings will house a cogeneration plant with microturbines and fuel cells. The entire complex will take advantage of all of these technologies, through district heating and cooling. The central operator of the facility will manage the energy needs of the entire complex and bill the renters accordingly.

Green Power Sales. Renewable technologies, which include photovoltaics, solar thermal, wind turbines and biomass operations, traditionally have been more expensive than fossil-fueled generation. The deregulated market for energy has opened an economic window of opportunity for these "clean" technologies by allowing them to take advantage of green marketing programs. Sales from photovoltaic projects into the ISO, for example, improves the economics for renewables by allowing them to take advantage of the premium price that the public is willing to pay for clean power. In this case, these small units need reasonable "uplift tariffs" that will allow them to transport this power (sometimes very small distances) to the ISO. They face formidable barriers. First, they have no assurance that they can transmit through the local distribution utility. Second,

they face the possibility that they will have to pay double tariffs for transmission at both the distribution as well as the ISO level.

Very recently, wind and biomass companies have had to go to the Federal Energy Regulatory for clarity on this issue. FERC's Order 2000 did not anticipate the needs of very small entities entering the marketplace in this way. Its rules are primarily designed for large merchant plants, and its decisions address the interests of the large merchant operations. The Distributed Power Coalition of America has asked FERC to review its policies for interconnection and tariffs for small, distributed generation projects.

2. RTO Language contained in H.R. 2944.

Section 103 of H.R. 2944 contains amendments to Section 202 of the Federal Power Act adding subsection (h) governing Regional Transmission Organizations. This section would mandate that transmission utilities must join an RTO by January 1, 2003.

Paragraph (2)(D) of this section gives responsibility to the RTO for planning necessary additions and upgrades to the transmission system under its operational control. We would encourage RTOs to consider a full evaluation of distributed resource options in their planning process. In many situations, distributed generation or a combination of on-site generation and storage options, may be a viable alternative to traditional wire solutions for system expansions or upgrades. We would support adding language to Paragraph (2)(D) to reflect this evaluation:

"In evaluating additions or upgrades to the transmission system, the regional transmission organization must fully consider distributed resource options and must provide ample opportunity for market participants to propose projects that would mitigate part or all of the identified need. The evaluation should include environmental and community planning considerations as well as life-cycle costs of options."

3. How distributed generation enhances reliability.

DPCA believes that the deployment of distributed resources will provide a number of benefits to the electric grid. These benefits are being fleshed out in state proceedings in New York and California over the next year. We will describe several of these, and relate how they enhance reliability of the overall system.

a. Using DG to "Clip the Peak" of Utility Load Duration Curves

In areas of rising demand, adding distributed generating units can help offset these increases. In particular, heavy peaking loads add the greatest stress on utility systems, which was amply demonstrated in many metropolitan areas just last summer. In New York City and Chicago, for example, overloaded lines failed, leaving thousands of customers stranded without service for extended periods of time. Distributed generating

units, operating during peak hours, can be used to "clip the peak" of the utility's load duration curve and help prevent these outages.

Time of use rates, or peak/off-peak rates, would help to encourage distributed generation as peaking facilities. One example is the McDonald's franchise in the Chicago area that recently installed a Parallon 75 microturbine. The microturbine automatically turns on during the day when the company pays peak rates for power, and turns off at night when the store can take advantage of off-peak rates from the utility.

Clipping the peak of the utility's load duration curve also helps to reduce line losses. On any transmission system, there will be losses of energy as power is transmitted through the line, and the longer the line, the higher the loss. Line losses can vary, systemwide, from 4-7%. However, during peak periods they can range as high as 20%. In general, the higher the current on the line and the longer the line, the greater the line losses. In fact, these losses can increase dramatically if the thermal limit is exceeded, which is one condition that led to some of last summer's blackouts. Therefore, every increment of generation at the top of the loading curve that can be eliminated will help in two ways: it will help keep the line operating below the thermal limit, and it will result in substantial savings of line losses.

b. Voltage and Stability Support

Generally, the more load on an electric system, the more likely it is that voltages will sag, lights dim and equipment will fail to operate efficiently. This is particularly prevalent when power is transmitted long distances to the load. Distributed generating units located near the customer can improve voltage within a local area.

In a typical utility system very short outages, of a few seconds or shorter, can impact users on the system. This is becoming much more pronounced today because of the use of computers and other sophisticated equipment that requires consistent power within very tight ranges. Distribution utilities have used a variety of equipment to provide VARs (Volt Ampere Reactive) and improve voltage support. Distributed resources can mitigate these problems. First, by relieving the system of load, distributed resources can reduce the effects and the severity of system disturbances. Second, in some cases distributed generation can allows users on portions of the grid to ride through momentary outages. DG units, as generating sources, have the potential to supply local loads during grid interruptions.

c. DG as Emergency Equipment

Distribution utilities, themselves, can employ distributed generation units to help meet emergency needs. Large mobile DG units can be trucked to specific locations to provide power if a transmission line or substation goes out of service. A real-life example is the Pacific Gas and Electric system, which uses these large mobile units in the valley during the summer to meet air conditioning peaks, then trucks them to Northern California to help meet winter peaks in the mountainous region there. Another example is the city of

Chicago, which used multiple mobile units to help bolster supply when its system went down last summer.

d. Ancillary Services

Ancillary services is an area of great interest to stakeholders in the distributed generation community. Examples include local voltage support, spinning reserve, load frequency control and load following. There may be other identified ancillary services as well.

Traditionally, distribution utilities provided all of these services. In future, some of these may be provided by distributed generating units, perhaps operating under performance contracts with the utility or the ISO. Indeed, there are two aspects to this issue. One is the extent to which ancillary services could be provided by the DG operator. The second is the extent to which customers can reduce their need for ancillary services from the utility by virtue of installing on-site generation.

What would this consist of? Spinning reserves refers to generating units that can be powered up to maximum capacity within seconds to meet peaking needs. Small gas-fired turbines are capable of being used for this purpose. In addition, many of the software packages now being designed for distributed resource packages could easily be modified to follow the utility's load and responding by increasing generation from small units to meet the load.

4. Market Power Issues – Information and Privacy

DPCA members, in general, would agree that utilities have traditionally enjoyed monopoly control over their markets. That is precisely how market franchises were set up. One area is the need to create transparent market signals to allow market participants the ability to meet needs, particularly in constrained areas. Language that would address this issue might be the following:

"The electric utility will make publicly available, on a regular and periodic basis, information relating to system constraints, electric use forecasting and the need for potential system upgrades."

Another area of particular concern in a deregulated environment involves the information that the utility now had about its customers, and the potential that the utility, (or one of its sister companies) might use that information to gain dominance in the market for electric goods or services. Legislative language to address this need might consist of the following:

"Electric utilities may not use information about their customers to provide themselves or affiliated companies an undue market advantage in selling products or services."

We hope these comments and suggestions are helpful to your committee. If you need additional clarification please feel free to contact my office.

Sincerely,

Sarah McKinley
Executive Director